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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,519	10/08/2003	Peter Tiemann	2001P23807US	9638

7590 02/14/2006

SIEMENS CORPORATION
INTELLECTUAL PROPERTY DEPT.
170 WOOD AVENUE SOUTH
ISELIN, NJ 08830

EXAMINER

WIEHE, NATHANIEL EDWARD

ART UNIT	PAPER NUMBER
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3745

DATE MAILED: 02/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/681,519		TIEMANN, PETER	
	Examiner		Art Unit	
	Nathan Wiehe		3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 12-24 have been considered but are moot in view of the new ground(s) of rejection. Applicant's arguments are directed toward how the Uematsu (US 6,019,573) reference, used to reject currently canceled claims 1-11, does not disclose the invention presented in new claims 12-24. However, the new claims, 12-24, are rejected using previously cited references Uematsu (EP 0 900 919), Suenaga (EP 0 806 544) and Borden (US 3,572,966). It is noted that Applicant does not argue the examiners motivation to use the Borden reference to teach the use of radial seals in a cooling arrangement.

It is also noted that the remarks were not signed. However, the amendment is proper due to the signature on accompanying extension of time.

Claim Objections

Claims 16 and 20 are objected to because of the following informalities:

In Claim 16, line 2, "radially inward" should read --radially outward--,

In Claim 20, line 2, "radially inward" should read --radially outward-- and

In Claim 22, line 3, "first and second regions" should read --first and third regions--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 12-14,16-18,20-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Uematsu (EP 0 900 919). Uematsu discloses a prior art turbine shaft (See Fig. 3) comprising, a first cooling circuit, cooling blade (21), and a second cooling circuit, cooling blade (22). The cooling circuits include a first regions (40,36) containing live steam, second regions located in corresponding blades (21,22) and a common third region, containing used steam, with a coolant exit (60). The first (40,36) and third regions are formed as cavities between adjacent disk. Uematsu also discloses a turbine shaft (See Fig. 1) comprising; a first cooling circuit, cooling blade (1) and a second cooling circuit, cooling blade (2). The cooling circuits have first regions (16,15) containing live steam, second regions within corresponding blades (1,2) and a common third region (22) including a coolant exit (19). In both turbine shafts disclosed by Uematsu the first region of the cooling circuits are supplied with live steam.

In regard to claims 16 and 20, as far as they are definite, the circuits first region is located radially inward from the third region.

In regard to claim 17, the pressure of the used steam would inherently be less than that of the live steam due to the cooling of the blade.

In regard to claims 21-24, the method for cooling a blade of a turbine engine would have been apparent from the disclosure of Uematsu.

Claims 12,13,15,18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Suenaga (EP 0 806 544). Suenaga discloses a turbine shaft (See Fig. 1

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below) including two cooling circuits. Both circuits contain a first region (16a,8a), containing live steam, a second region (6) within a respective blade (1,2) and a third region (9,8b) containing used steam. Each of the blades is provided with live steam for effective cooling and the third regions communicate flow wise with outlet (11). Further, the structure disclosed by Suenaga shows that the third region (9) of the first circuit is sealed from the first region (8a) of the second circuit.

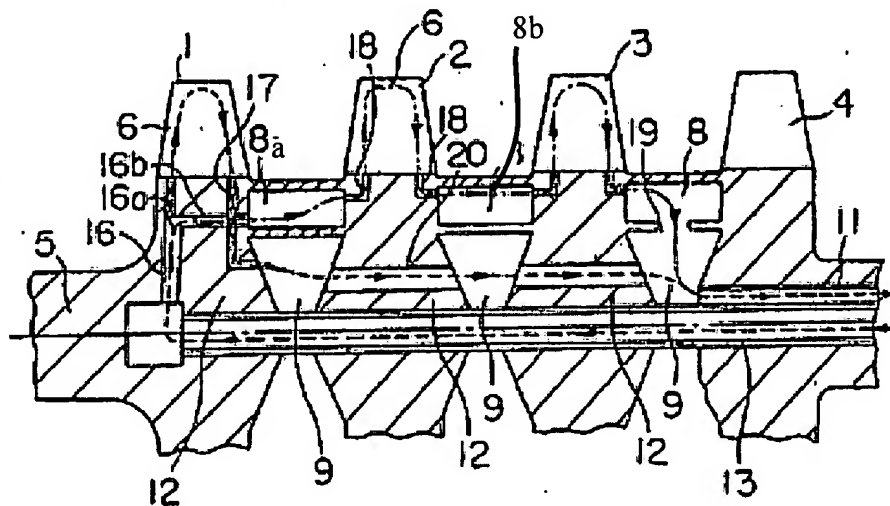


Fig. 1

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uematsu in view of Borden (US 3,572,966). Uematsu discloses the invention substantially as claimed except for the use of radial seals. Borden teaches the use of radial seals (37) in a turbine cooling system. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the turbine cooling system of Uematsu by including seals between radially adjacent cavities as taught by Borden in order to maintain the pressure difference between adjacent cavities. The method of cooling would have been apparent from the modified cooling system of Uematsu.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

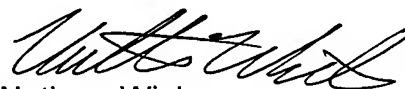
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Wiehe whose telephone number is (571)272-8648. The examiner can normally be reached on Mon.-Thur. and alternate Fri., 7am-4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on (571)272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nathan Wiehe
Examiner
Art Unit 3745



EDWARD K. LOOK
SUPERVISORY PATENT EXAMINER
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2/9/06